

SWDX - Mod Documentation

All mentioned here works with the SAGE 2020 Demo or later.

EVERYTHING IS CASE SENSITIVE

If something doesn't work, check to make sure the case's match up.

Extended HUD

Pressing F5 in Gameplay enables an extended HUD which displays more technical info.



Debug mode

- Pressing F3 or Delete will toggle on Debug mode, allowing you to select and place objects in your stage.
- Pressing F6 in position mode using a box will cycle between available box types

Theme Mods:

The Sonic World Website should include a theme template, with psd files to help, especially with text, and featuring all the sounds you can change. Resolution must be IDENTICAL TO THE ORIGINALS.

Font Kerning has to remain the same.

Theme Mods Consist of two Folders:

1. Interface: The visual assets.
2. Sounds: The audio assets

Interface:

- Background.png: 1440x900
 - The background of the main menu area.
- Buttons.png: 400x300
 - Three rows of buttons from top-bottom: Deselected, Highlighted, Unavailable
- Card1.png: 100x417
 - 2 columns of spikes used for menu transitions with the tips lingering at the top/bottom of screen.
- Card2.png: 417x50
 - A single row of a spike tiled during the loading screen. It is tinted ingame and tiled vertically.
- Circle.png: 496x500
 - Colored in-code. Circle for gallery and team select
- Gauge.png: 500x500
 - Action Gauge. A specific area is the bar itself (covered in template). The bar can be seen through if the png is translucent on the bar area.
- HudLeft.png: 500x500
 - Left backdrop of hud. Exclude file if you want no backdrop.
- HudRight.png: 500x500
 - Right backdrop of hud. Exclude file if you want no backdrop.
- Icons.png: 768x210
 - Mission Icons and HUD Icons. In a grid format. The ? symbol is also used on the Character Select Screen.
- Logo.png: 800x500
 - The complete logo for the theme.
- LogoFlash.png: 800x500
 - Bright version of logo
- LogoRing.png: 800x500
 - The part of the logo that zooms into place
- LogoRipple.png: 800x500
 - Appears with LogoFlash. Ripples
- Numbers.png: 201x268
 - Numbers for HUD and Records
- RedRingBox.png: 500x500
 - Box for the Red Ring interface.
- Sky.png: 1440x900
 - The background of the logo screen

- Spinner.png: 400x386
 - Coloured in-code based on character.
- Square.png: 496x400
 - Border for Stage and Theme Select previews.
- Text.png: 480x210 (use grid from psd for all text files!!)
 - Atlas of Small text for tooltips, loading screen and gallery.
- TextButtons.png: 960x420
 - Atlas of text for unselected buttons.
- TextButtons2.png: 960x420
 - Atlas of text for selected buttons.
- TextControls.png: 960x420
 - Atlas of text for menu tooltips.
- TextCredits.png: 640x270
 - Atlas of text for credits.
- TextNames.png: 1120x280
 - Atlas of text for Character names. Coloured in-game
- TextNames2.png: 1120x280
 - Atlas of text or backdrop of Character names.
- TextOvers1.png: 1440x630
 - Atlas of text for Game Over
- TextOvers2.png: 1440x630
 - Atlas of text for Time Over
- TextRecords1.png: 1440x630
 - Atlas of text for Records and Ranking
- TextRecords2.png: 1440x630
 - Atlas of text for Records and Ranking
- TextTitle.png: 1440x630
 - Atlas of text for Zone names and headers.
- TextTitle2.png: 1440x630
 - Atlas of text for Backdrop of Zone names and headers. Coloured in code.
- TextTitleChao.png: 1440x630
 - Atlas of text for Chao names and headers. Must match TextTitle since both share the texttitle2 backdrop.
- Thumbnail.png: 1440x900
 - Preview thumbnail in the Menu Themes Selection.

Sounds:

- 1Up.ogg
 - Extra Life Jingle
- Bounce.ogg
 - Used for bouncing
- Check.ogg
 - Checkpoint Sound
- Drown.ogg
 - Drowning jingle

- GameOver.ogg
 - Game Over jingle
- GroundSkid.ogg
 - Brake Sound
- HomingAttack.ogg
 - Homing Attack Sound
- HomingAttackDeep.ogg
 - Lower pitched Homing Attack (enemy locked on)
- Invincible.ogg
 - Invincibility jingle. Make sure it roughly matches the time
- MenuAccept.ogg
 - Button select sound. Also used when Gauge is maxed out.
- MenuBack.ogg
 - Going back in a menu sound.
- MenuCredits.ogg
 - Credits music
- MenuIntro.ogg
 - Opening music, does not loop.
- MenuMain.ogg
 - Main Menu music, loops.
- MenuMove.ogg
 - Moving in menu sound.
- MenuOptions.ogg
 - Options music
- MenuPause.ogg
 - Pause sound.
- MenuRefuse.ogg
 - Selecting an unavailable option sound.
- MissionComplete.ogg
 - Mission Complete jingle (pre-rank)
- RankScore.ogg
 - The sound when the results stuff pops up.
- Result.ogg
 - Jingle after getting a Rank
- ResultS.ogg
 - Jingle after getting an S Rank
- Ring.ogg
 - Ring sound
- RingBig.ogg
 - Emerald Shard Sound
- RingLoss.ogg
 - Hurt sound
- RingSuper.ogg
 - Super Ring (5, 10, 20) Sound
- SpeedShoes.ogg
 - Speed Shoes jingle, Make sure it matches the duration or itll cut-off

- SpindashCharge.ogg
 - Charging spindash sound
- SpindashRelease.ogg
 - Releasing spindash sound
- Spring.ogg
 - Spring Sound

Stage Mods

Folder Structure:

- [Stage Name]
 - [Media]
 - hero/dark.ogg
 - Missions.xml
 - thumbnail.png
 - [Objects]
 - [Skydome]
 - [Sounds]
 - [Stage]
 - Stage.xml

Stage.XML

This file tells the game what to load for the stage. Stage.xml is the default for missions if there is no dedicated xml for it. If you want mission specific xmls for alternate missions, name it StageM1.xml, StageM5.xml, etc. the number is the order of the mission from the stage select and NOT the mission ids from Missions.xml.

Information

The information in this section must be written IN THE SAME ORDER. Failure to write the information in the correct order will result in a memory access violation

- `<ambientlight r="128" g="128" b="128"/>`
 - Determines the light projected on the characters and objects. Change to make shadows of *objects* (not meshes) darker or brighter.
- `<water on="0" level="0" type="ocean"/>`
 - Toggles water in the stage and what level the peak is. Can be changed in-game using water switches. Type determines what kind of water it is.
 - Available types:
 - **normal**: default water. If type parameter isn't present, it will use this.
 - **ocean**: SA2 styled water
 - **lava**: Turns it into lava that kills you in 1-hit.
 - **acid**: Green insta-kill water, functions like lava

- **swamp**: water tinted green, useful for sewers, forests and swamps
 - **sand**: quicksand, kills you.
 - **oil**: functionally identical to quicksand
 - **pinkwater**: water tinted pink. Useful for chemical plant or for sunset water.
- `<death level="0"/>`
 - Determines the y axis that will automatically kill you.
- `<fog on="0" near="2000" far="9000" r="255" g="150" b="80"/>`
 - If set to 1, enables fog
 - Near sets the distance from you the fog starts
 - Far sets the distance where the fog reaches its densest.
 - Rgb values set the color of the fog.
- `<filter on="1" intensity="0.8" r="72" g="16" b="72"/>`
 - If set to 1, adds a tint over most gameplay aside from the HUD.
 - Intensity sets how opaque the tint is
 - Rgb values set the color of the tint.
- `<alarm on="0"/>`
 - If set to 1, plays an ambient alarm sound.
- `<beach on="0"/>`
 - If set to 1, plays ambient beach noises (seagulls and water lapping)
- `<forest on="0"/>`
 - If set to 1 or 2, plays ambient forest noises and puts particles on screen.
 - Particles change whether 1 or 2 is selected.
- `<rain on="0"/>`
 - If set to 1, ambient rain sounds and particles are shown on screen.
- `<snow on="0"/>`
 - If set to 1, ambient snow particles are shown on screen
- `<void on="0"/>`
 - If set to 1, an ambient ringing sound plays
- `<wind on="0"/>`
 - If set to 1, ambient wind sounds play
- `<earth on="0"/>`
 - If set to 1, the earth appears at the bottom of the skybox. Useful for space.
- `<moon on="0"/>`
 - If set to 1, the moon appears at the BOTTOM of the skybox. Useful for space.
- `<skydome>Skydome/Sky.b3d</skydome>`
 - Determines the path skydome for the stage. Skyboxes require animations (although it could contain no real movement) and can be .b3d or .3ds . All stages need a skybox.
- `<vehicle on="0"/>`
 - Forces a vehicle per mission. Vehicles are heavily unfinished in this version aside from the board.
 - 0: none
 - 1: Board
 - 2: Glider
 - 3: Bumper Car

- 4: Bike
 - 5: Bobsled
 - 6: Tornado
 - 7: Tornado (Battle Mode)
 - 8: Cyclone
 - 9: Kart
- <hub on="0"/>
 - If set to 1, limits movement to be the same as on chao garden.
- <ring amount="100"/>
 - Required rings to complete a Ring mission.
 - If absent, defaults to 200
- <enemy amount="100"/>
 - Required enemies to defeat to complete a Destroyer mission
 - If absent, defaults to 10
- <sun on="0" x="-110.00" y="200.0" z="870.0" scale="2.5" sunrays="1"/>
 - If set to 1, adds a sun at the given coordinates
 - Scale determines the size of the sun
 - Sunrays determines whether the sun will emit sun rays if the option is enabled by the player

Meshes.

Meshes are formatted like this:

```
<mesh filename="Stage/Stage.b3d" visible="1" collision="1">
  <position x="0.0" y="0.0" z="0.0"/>
  <rotation pitch="0.0" yaw="0.0" roll="0.0"/>
  <scale x="1" y="1" z="1"/>
  <attributes>
    <color r="255" g="255" b="255"/>
  </attributes>
</mesh>
```

Acceptable formats: b3d, 3ds, x

- Mesh types, at start and end of mesh:
 - mesh - normal mesh with stone footsteps
 - grassmesh - normal mesh with grass footsteps
 - dirtmesh - normal mesh with dirt footsteps
 - woodmesh - normal mesh with wood footsteps
 - metalmesh - normal mesh with metal footsteps
 - watermesh - normal mesh with splash footsteps
 - blockmesh - mesh that cannot be interacted with using skills (glide, wall kick, etc)
 - hurtmesh - mesh that hurts the player
 - firemesh - same as above, but acts as a normal mesh if the player has a fire shield

- deathmesh - kills the player. Deathmeshes cannot be made invisible using the “visible” value, and must have their transparency set to 100% inside the file itself.
- railmesh - automatically makes you grind on it.
- pinballmesh - makes you roll and prevents you from jumping, spindashing, or using skills
- bouncemesh - makes you bounce upward upon contact
- icemesh - lowers acceleration and friction, making movement slippery.
- slowmesh - lowers acceleration and top speed
- animmesh - plays animations. This mesh type plays all animations inside a file in succession, with no regards for frame count. The animations are played at 60 frames per second.
- filename:
 - Path of the mesh
- visible
 - Toggles visibility of the mesh
- collision
 - Toggles whether you can collide with the mesh
- Position
 - The location of the mesh’s origin in the stage
- Rotation
 - The rotation of the mesh in the stage. Usage of this value is not recommended on meshes with collision, as it can mess with how the character interacts with it.
- Scale
 - The scale of the mesh.
 - It's recommended you scale the mesh itself and not this as it may cause collision problems.

```
<animtex type="3"/>
<change timer="0.1"/>
<scroll x="0.0" y="-0.1"/>
<diffuse texture1="Stage/.png" texture2="Stage/.png" texture3="Stage/.png" texture4="Stage/.png" alpha="1"/>
```
- Attributes:
 - Color
 - The rgb values of the mesh to colorise it. If set to 0, it will appear to be pure black, and if set to 255 or higher, it will appear to be glowing. Useful for setting the intensity of shadows on *meshes* (not objects)
 - Animtex (1): Scrolling
 - scroll determines by how much in the x or y axis it scrolls per second.
 - Diffuse texture1 is the texture that will scroll. Only supports 1 diffuse texture and 1 bump texture
 - Animtex type (2): Flashing
 - Change timer decides how long before the image changes to the next one.
 - Diffuse texture1 is the first texture it loads, supports up to 8 diffuse textures and 1 bump texture
 - Animtex type (3): flashing and scrolling

- Has all of the attributes of the previous two animtex types.

Lights

Lights are extremely limited in Blitz as only the player and objects cast shadows. Some stages opt to bake the lighting with external tools such as Giles (check website tools page). Placing too many lights might make a stage lag greatly, so place only necessary lights.

```
<light type="directional" range="100">
  <position x="4.5" y="0.0" z="0.0"/>
  <rotation pitch="45.0" yaw="23.0" roll="0.0"/>
  <color r="189" g="160" b="89"/>
</light>
```

There are three light types. At least one light is required for a stage to run:

- Directional:
 - Lights all objects and meshes from a specified direction, like the sun.
 - position and range doesn't matter
 - The way objects are shaded are based on rotation of the light.
 - Color determines the rgb value of the lighting
- Spot:
 - Focuses light onto a single, circular spot
 - Position and rotation determine where the spot appears
 - Range is the radius of how far from the position the light would reach
 - Objects within the spotlight are lit based on rotation of the light.
 - Color determines the rgb value of the lighting
- Point:
 - A single point of light that lights objects in a radius around itself.
 - Position determines location of light.
 - Range determines how large a radius around the point will be lit
 - Rotation does nothing
 - Objects are lit based on their position within the radius around the point
 - Color determines the rgb value of the lighting

A NOTE ABOUT IN-ENGINE LIGHTING:

The values of ambient light in the information, the lights placed in the world, and the individual mesh colors are all additive. Adding up the RGB values of these parameters will determine what color the lights and shadows will appear.

For example:

If the ambient color values of a stage is **grey**

```
<ambientlight r="128" g="128" b="128"/>
```

And the directional light values are a pale **red**

```
<light type="directional" range="1">
  <color r="256" g="128" b="128" />
</light>
```

The lit parts of your objects and characters **will NOT appear to be lit by red light. They will appear to be lit by WHITE LIGHT.**

The total RGB values equal to greater than 255 for red, blue, and green, which will make the light color look white.

Objects

Objects can be placed using debug mode, where they can be saved to a debug.xml. Drag in whatever contents from the DEBUGXML.xml into here.

Since most of this is automated, this document will only highlight special objects.

Super Rings:

Object ID: ring

Power determines the power of the ring:

- 0/1 - normal ring
- 5 - 5 ring
- 10 - 10 ring
- 20 - 20 ring
-

Red Rings:

Object ID: redring

Power determines which red ring in the stage it is, from 1-5.

Hint Rings:

Object ID: hint

```
<object type="hint">
  <position x="-650.054" y="53.1825" z="-2993.3"/>
  <hint line1="Jump on panel number one. It will take you to panels two and three." line2="Jump as soon as you land on a panel or else
  you'll fall." soundpath="Media/Hint.ogg"/>
  <power is="8"/>
  <ID is="21"/>
</object>
```

Line1 determines the first line shown on screen

Line 2 determines the second line shown on screen

Soundpath links to a .ogg file. This can be placed anywhere in the stages folder, but preferably in media.

Power determines how long in seconds the message is shown on-screen.

Random Enemy:

Object ID: enemy

This makes the enemy at the position be randomised. This is useful for robot carnivals.

Robot Carnival Enemies:

Any enemy can be a part of a robot carnival mission, but in order to make them count for the wave, they must have a switch value when placed. Rename '*switch no="1"*' to '*carnival no="1"*'. This will make the enemy part of that phase. Robot carnival enemies will not spawn in any other mission type.

Once it can't find any other robot carnival wave to summon, it will complete the mission.

Repeating Objects:

Object ID: repeat

This makes objects repeat under a set distance in the z axis from the position its placed

```
<object type="repeat">
  <position x="0" y="10" z="-20"/>
  <d has="400.0" x="15" y="14" z="30"/>
  <hint line1="ring"/>
</object>
```

- D has determines the distance before the object repeats
- X determines how the radius from the x axis of the origin, the object will spawn
- Y determines how the radius from the y axis of the origin, the object will spawn
- Z determines how the radius from the z axis of the origin, the object will spawn
- Hint line1 determines the object to be repeated.

The following objects can be repeated:

```
Case "ring":      o
Case "spring":    o
Case "springx":   o
Case "springt":   o
Case "springtx":  o
Case "pad":       o
Case "ramp":      o
Case "hoop":      o
Case "thoop":     o
Case "accel":     o
Case "spikeb":    o
Case "spikebo":   o
Case "spikecr":   o
Case "spikecyl":  o
Case "xspikeb":   o
Case "xspikebo":  o
Case "xspikecr":  o
Case "xspikecyl": o
Case "cbox":      o
Case "ibox":      o
Case "mbox":      o
Case "wbox":      o
Case "tntbox":    o
Case "nbox":      o
Case "fbox":      o
Case "monitor":   o
Case "fspout":    o
Case "ispout":    o
Case "sspout":    o
Case "enemy":     o
```

Changelog for Objects:

General:

- Because of physics changes, powers may need to be altered in pre-DX stages.
- New control lock: 2D lock. This locks your movement and camera to a 2 dimensional plane. Can be applied to any locker or fastener.

- Materials for almost every object have been updated

Additions:

- **Shard:**
 - Replacement for Red Rings in treasure hunt stages
- **Warp Ring:**
 - Unlike Goal Ring prog., this carries over your time and score from before you entered.
 - Teleporter name determines the stage you will be sent to
 - Power determines the mission it will send you into
- **Egg Gunner:**
 - Rapid-fires bullets that take one ring at a time.
- **Egg Searcher:**
 - Aerial 06 enemy who shoots straight forward
- **Egg Hunter:**
 - Reskin of Egg Searcher.
- **Ice Spring**
 - A spring that breaks upon jumping on it once.
- **Thorn Spring**
 - A spring that turns around on a timer that can hurt you if you hit the thorn half.
- **Jump Panel Start**
 - Jump on this to start a jump panel chain
- **Jump Panel**
 - Automatically stick to this in proximity, jump to go to destination, if you wait 2 seconds, you will fall.
 - Can be invisible like fans. Invisible ones dont play a normal jump sound instead.
- **Stage Visual:**
 - Static placable objects which can be defined by object modding.
 - Up to five different types
 - Supports 17 frames of animation.
- **Vanish Boxes:**
 - Translucent yellow boxes that respawn once destroyed.

Changes:

- **Ring:**
 - Now affected by power.
- **Counter:**
 - New sounds.
- **RedRing:**
 - Now affected by power.
 - Now collectables for unlocking a 5th mission.
 - Rename redring to shard since red rings are no longer used in treasure hunt missions.
- **Hints**
 - Power now determines length
 - Can now have sounds attached.
- **Goal Ring:**

- Model and sounds change if the mission is set to encore.
- **Capsule:**
 - Now part of the Normal Run mission as a Goal Ring alternative.
- **pads and dash panels**
 - New model.
 - Dash panels model is narrower, so you may need to line several up
- **Float Boxes**
 - New Model
- **TNT, Nitro and Float Box**
 - Coloured Parts now glow, making them a lot easier to spot.
- **Spike Bombs and Crushers**
 - Coloured parts now glow, making them a lot easier to spot.
- **Board**
 - New model.
 - You can no longer speed up using roll on a board.
 - Can surf on water temporarily. (Experimental!)
- **Teleporter:**
 - Now has a white fade effect while activating the teleport.
- **Pulleys:**
 - Can now be targeted by the homing attack.
- **Switches**
 - Ball now shrinks when turned off as easier visual indicator
- **Plants**
 - Fixed visual bug with palm trees
- **Mecha Sonic:**
 - Model and textures optimised to reduce lag.
- **Fire Shield:**
 - New functionality: can collide with new firemesh as if its a normal mesh.

Missions.xml

```
<information>
  <mission1 is="0" time="0" mach="0" perfect="0" idealscore="1500" idealtime="60" maxtime="90"/>
  <mission2 is="0" time="0" mach="0" perfect="0" idealscore="1500" idealtime="60" maxtime="90"/>
  <mission3 is="9" time="0" mach="0" perfect="0" idealscore="1500" idealtime="60" maxtime="90"/>
  <mission4 is="14" time="1" mach="1" perfect="0" idealscore="1500" idealtime="60" maxtime="90"/>
  <mission5 is="1" time="0" mach="0" perfect="1" idealscore="1500" idealtime="60" maxtime="90"/>
  <author is="Deefor"/>
</information>
```

Sonic World DX supports 5 unique missions for each stage. This file decides which type of mission each mission is, certain mission modifiers like time attack or perfect run, along with other miscellaneous values such as ideal score and time values.

Mission types:

- 0: **Normal run.** Reach the goal! (Goal ring or capsule)
- 1: **Destructor.** Destroy the required amount of enemies (amount set in mission's stage.xml)
- 2: **Ring Collector.** Collect the required amount of rings (amount set in mission's stage.xml)
- 3: **Treasure Hunter.** Gather 3 emerald shards (may change per-stage using object mods)
- 4: **Golden Pursuit.** Destroy all golden enemies. Random enemies turn gold.
- 5: **Stealth.** Reach the goal without being spotted!
- 6: **Confetti Parade.** Pop all the balloons! If there's no balloons in the xml it'll automatically complete itself, so make sure to add them.
- 7: **Free Roam.** Run around and explore! Uncompletable but nice for HUBS.
- 8: **Rival Battle.** Rivals are currently broken in this demo, this mission crashes.
- 9: **Robot Carnival.** Destroy waves of enemies!
- 10: **Boss Battle.** Defeat the incoming threat! You can place several bosses but the level clears if you beat one. Several Eggman bosses, E-101 Beta and Mecha Sonic are available.
- 11: **Flicky Rescue.** Rescue 5 flickies and bring them to the goal. Flickies are found in random enemies.
- 12: **Countdown.** Don't use this mission. It's just a time attack. Left over from r9 and will likely be replaced
- 13: **Escape.** Escape from the threat! Defaults to a sprinkler. Goal is a balloon.
- 14: **Encore.** A new challenge awaits! Normal run with enemy behavioral changes. Goal Ring is reskinned into the Phantom Ruby.

Time: if set to 1, mission is a time attack mission.

Mach: if set to 1, the mission is a mach speed mission. You will constantly be running in a mach speed state.

Perfect: if set to 1, you need to complete the mission without dying once.

Ideal time: the time required to give the best chance of an S rank.

Ideal score: the score required to gain an S rank

Max time: if you get below this, you're likely going to get an F rank.

Author is: The credits of the stage creators. If missing or left blank, it will display as "Unknown"

Thumbnail.png

Resolution must be 400x308.

Thumbnail.png is the default and required for others to load.

If you want mission specific thumbnails, add m(missionnumber) to the png

Example: Thumbnailm3.png for mission 3 thumbnail.

Stage Music

Stages can support music tracks in either the .ogg or .mp3 file formats. Ogg is the preferred format to use. You can use the free program “Audacity” to convert your music to the .ogg file format. <https://www.audacityteam.org/>

Music Categories

The file name for the stage music is either "hero.ogg" and "dark.ogg", and which one that plays is based on the alignment of the character you are playing. If only one music file is present in the media folder, that track will play regardless of character alignment.

Music Triggers

Music triggers are invisible trigger objects that change the music of a stage during gameplay, usually used to match the music to changing atmosphere and aesthetics within a stage. Up to three tracks are supported ("hero1.ogg"/"dark1.ogg", "hero2.ogg"/"dark2.ogg", "hero3.ogg"/"dark3.ogg") and each track has its own specific music trigger that can be placed in a stage using the debug mode object placer (music1, music2, music3).

Mission Music

Each stage mission may have its own unique music track. To do this, add “m” plus the mission number to the end of the music track file name.

For example:

To add a unique hero music track to the third mission of a stage, title the file “herom3.ogg”. To add a unique dark track to the fifth mission of your stage, title the file “darkm5.ogg”. If there is no unique track for a mission, it will use the default track.

Additional Filename examples

- herom4: the fourth mission’s music track for the hero side.
- dark2m3: the music track played by the “Music2” trigger for dark characters in mission 3.
- hero3m5: the music track played by the “Music3” trigger for hero characters in mission 5.
- darkm2: the second mission’s music track for the dark side.

Objects

Object modding is a new feature in Sonic World DX, allowing you to skin existing objects. Templates are included with the sample stage. Please use them to minimise errors and ensure bone names match. If some bone names do not match, the game may crash.

The directories are as follows:

- Objects
 - Boxes
 - BoxFloat.b3d (Float boxes)
 - BoxLightOff.b3d (Light boxes toggled off)
 - BoxLightOn.b3d (Light boxes toggled on)
 - Breakables
 - RockBrown.b3d (Brown breakable rock)
 - RockChunk1_brown.b3d (brown rock shard)
 - RockChunk2_brown.b3d (brown rock shard)
 - RockChunk3_brown.b3d (brown rock shard)
 - Enemies
 - EggPawn.b3d (Egg Pawn. All weapon variants are also in this b3d as animations)
 - EggPawnGun.b3d (the gun the Egg Pawn drops when destroyed)
 - EggPawnShield.b3d (the shield the Egg-Pawn drops when hit)
 - EggPawnSword.b3d (The sword the Egg-Pawn drops when destroyed)
 - Fcannon1.b3d (enemy Cannon)
 - Fcannon2.b3d (enemy tall cannon)
 - Fcannon3.b3d (Dual barrel cannon)
 - FcannonMissile.b3d (cannon shots)
 - Spina.b3d (Spinner)
 - EggHammer.b3d (Egg Hammer. All weapon variants also in b3d as animations)
 - EggHammerHammer.b3d (Hammer the Egg-Hammer drops on death)
 - EggHammerShield.b3d (the shield the Egg-Hammer drops when hit)
 - Fasteners
 - Propeller.b3d (Propeller)
 - Monitors
 - Board.b3d (board)
 - BoardX.b3d (board in monitor)
 - Rings
 - Bring5.b3d (5 ring)
 - Bring10.b3d (10 ring)
 - Bring20.b3d (20 ring)
 - Ring.b3d (ring)
 - Springs
 - Platform.b3d (falling platform)
 - Spring.b3d (spring)
 - Teleporter.b3d (normal teleporter)
 - Visuals
 - custom1.b3d (Visual Object 1)
 - custom2.b3d (Visual Object 2)
 - custom3.b3d (Visual Object 3)

- custom4.b3d (Visual Object 4)
- custom5.b3d (Visual Object 5)

Character Mods

This demo breaks the old character modding system, so it instead has a placeholder replacement system. You just need to add a model.b3d into a folder in Mods/characters that matches the character's three letter code:

- Son - sonic
- Tai - tails
- Sha - shadow

Required bones:

EVERYONE:

"head"
 "handR"
 "handL"
 "armR"
 "armL"
 "toeR"
 "toeL"
 "footR"
 "footL"
 "spine"
 "hips"

TAI:

"Scanner"

Required animations

EVERYONE:

- bio - 17
- idle - 17
- wait - 70
- walk - 17
- jog - 17
- run - 17, 33 if skate
- machrun - 17, 33 if skate

- spin - 9
- fall - 9
- fallfast - 9
- forward - 9
- up - 9
- float - 9
- brake - 9
- hurt - 9
- dead - 1
- deadfall - 1
- grind - 9
- grindswitch - 9
- grindfast - 9
- skydive - 9
- skydivefast - 9
- carryidle - 17
- carrywalk - 17
- carryup - 9
- hold - 9
- jumppanel - 9
- driftl - 17
- driftr - 17
- stomp - 9
- land - 9
- transform - 9
- trick - 33
- vehicle - 9
- board - 9
- boardfall - 9
- boardl - 9
- boardr - 9
- victory - 140
- victoryloop - 9

(put these after the animations for everyone)

SON

- homingtrick1 - 17
- homingtrick2 - 17
- homingtrick3 - 17
- kick - 17
- kickair - 9

SHA

- homingtrick1 - 17
- homingtrick2 - 17
- homingtrick3 - 17

- throw(spear) - 9
- punch1 - 9
- punch2 - 9
- punch3 - 9

TAI:

- fly - 9
- shoot - 9
- shootair - 9
- shootfly(unused)- 9
- tailspin - 17
- tailspinair - 17
- tailswipe - 9